CENTERS FOR DISEASE CONTROL

April 20, 1990 / Vol. 39 / No. 15

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Progress in Chronic Disease Prevention

Black-White Differences in Cervical Cancer Mortality — United States, 1980–1987

Although a higher proportion of black women than white women of all ages report having been screened for cervical cancer (CDC, unpublished data), cervical cancer mortality rates for black women are twice those for white women (rate ratio 2.6 in 1987). This report summarizes differences in cervical cancer deaths for black women and white women ≥15 years of age for 1980–1987.

Cervical cancer (*International Classification of Diseases, Ninth Revision, Clinical Modification*, rubric 180) deaths were identified by using total mentions from the multiple cause-of-death file* compiled by CDC's National Center for Health Statistics (NCHS). Denominators for rate calculations were determined from intercensal population estimates (*2,3*). Mortality rates were standardized to the 1980 age distribution of the U.S. population.

From 1980 through 1987, cervical cancer mortality rates for black women were consistently more than twice those for white women (Figure 1). Although the rates for both races declined during that period (for black women, from 10.1 to 7.6 per 100,000; for white women, from 3.6 to 2.9 per 100,000), the black-white rate ratio remained stable (2.8 in 1980 compared with 2.6 in 1987).

For the 8-year period, cervical cancer mortality rates increased with age for both races. The black-white rate ratio for cervical cancer mortality varied by age (Figure 2): the ratio was 1.6 for ages 15–24 years, 1.9 for ages 25–34 years, 2.5 for ages 35–44 years, 3.0 for ages 45–54 years, 2.7 for ages 55–64 years, and 2.6 for ages ≥65 years.

Cervical cancer mortality rates varied by race and state. For black women, rates ranged from 5.7 per 100,000 in Washington to 11.5 per 100,000 in Delaware and Nevada (Table 1). For white women, rates ranged from 1.8 per 100,000 in Utah to 5.2 per 100,000 in West Virginia.

*A public-use tape file that contains a data record for all deaths processed by NCHS. Each data record includes multiple cause, underlying cause, and demographic data for a death (*1*).

Cervical Cancer Mortality — Continued

Reported by: Office of Surveillance and Analysis and Cancer Prevention and Control Br, Div of Chronic Disease Control and Community Intervention, Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Virtually all cervical cancer deaths are preventable by early detection and appropriate therapeutic intervention and follow-up (*4*). The widespread implementation of preventive services for the early detection of this disease has been associated with substantial reductions in morbidity and mortality; from 1947 through 1984, cervical cancer mortality declined approximately 70%, primarily because of

FIGURE 1. Age-adjusted cervical cancer rates per 100,000 women, by race and year — United States, 1980–1987

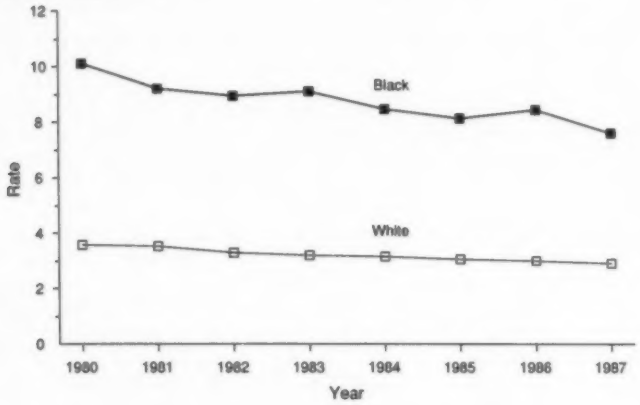
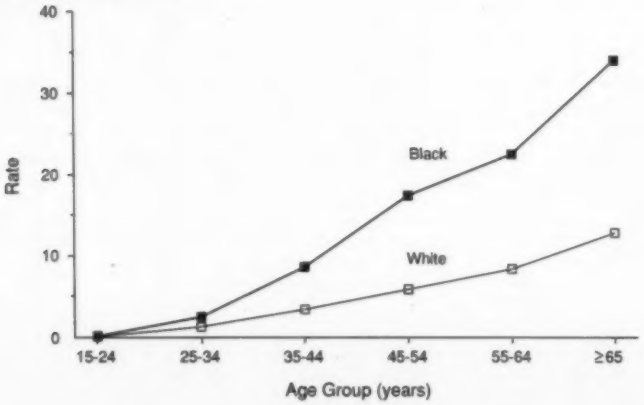


FIGURE 2. Cervical cancer mortality rates per 100,000 women, by race and age group — United States, 1980–1987



Cervical Cancer Mortality — Continued

TABLE 1. Cervical cancer deaths and age-adjusted mortality rate,* by area and race — United States, 1980–1987

Area	No. deaths		Rate	
	Black	White	Black	White
Alabama	430	629	10.0	4.2
Alaska	0	21	—†	2.5
Arizona	23	403	8.0	3.1
Arkansas	123	322	7.6	3.1
California	448	3,314	6.7	3.3
Colorado	20	309	6.9	2.5
Connecticut	61	393	8.0	2.5
Delaware	39	90	11.5	3.5
District of Columbia	184	34	8.5	3.0
Florida	562	1,568	10.5	2.8
Georgia	519	602	9.0	3.0
Hawaii	0	37	—†	3.2
Idaho	0	91	—†	2.3
Illinois	595	1,667	9.4	3.4
Indiana	155	972	10.1	4.0
Iowa	9	455	5.8	3.0
Kansas	47	370	9.9	3.1
Kentucky	89	808	8.3	5.0
Louisiana	446	406	9.1	2.9
Maine	0	268	—†	4.6
Maryland	304	491	8.7	3.0
Massachusetts	60	910	7.1	3.0
Michigan	326	1,170	7.4	3.1
Minnesota	10	457	7.1	2.3
Mississippi	348	228	9.9	2.7
Missouri	194	797	9.0	3.3
Montana	0	91	—†	2.6
Nebraska	13	194	8.0	2.6
Nevada	15	125	11.5	3.7
New Hampshire	0	199	—†	4.3
New Jersey	358	1,109	9.8	3.2
New Mexico	9	155	10.7	2.9
New York	897	2,571	8.4	3.2
North Carolina	574	820	10.6	3.5
North Dakota	0	87	—†	3.1
Ohio	316	1,739	7.1	3.6
Oklahoma	63	460	7.8	3.2
Oregon	4	365	—†	2.9
Pennsylvania	333	1,860	6.9	3.1
Rhode Island	4	155	—†	3.1
South Carolina	380	388	10.2	3.6
South Dakota	0	77	—†	2.3
Tennessee	310	773	10.4	3.9
Texas	587	1,943	8.9	3.3
Utah	1	99	—†	1.8
Vermont	1	96	—†	3.9
Virginia	345	666	8.2	3.2
Washington	16	532	5.7	2.8
West Virginia	32	482	8.8	5.2
Wisconsin	36	586	7.3	2.6
Wyoming	0	43	—†	2.3
Total	**9,286**	**32,427**	**8.7**	**3.2**

*Per 100,000 women.
†Rate does not meet standards of reliability or precision.

Cervical Cancer Mortality — Continued

extensive use of the Papanicolaou (Pap) smear test (*5*). From 1980 through 1987, the number of women for whom cervical cancer was the underlying or contributing cause of death declined by 11% (from 5537 deaths to 4951 deaths).

This report underscores the substantial and persistent difference between invasive cervical cancer rates for black women and white women. Lower socioeconomic status, higher cervical cancer incidence rates (*6*), and poorer survival from cervical cancer (*6*) among black women may partially explain the excess in cervical cancer mortality among black women. Less frequent Pap smears for black women before the 1980s (*7*) may have contributed to the excess in cervical cancer mortality among older black women. For younger black women who were screened more frequently than their white counterparts, disparities in follow-up and treatment may have contributed to excess cervical cancer mortality.

The draft publication *Promoting Health/Preventing Disease: Year 2000 Objectives for the Nation* includes a goal to reduce cervical cancer mortality from 3.2 per 100,000[†] women in 1986 to 1.5 per 100,000 in the year 2000 (*8*). Approaches that may contribute to achieving this reduction include: 1) ensuring that quality screening and follow-up are available to all women, regardless of ability to pay; 2) educating health professionals about the importance of regular screening; 3) educating women about the importance of regular screening; 4) examining the occurrence of and circumstances leading to invasive disease and death; and 5) promoting quality assurance in cervical cytology to improve the accuracy of the Pap smear screening test.

Public health professionals, clinicians, and other health-care providers can reduce cervical cancer mortality through the use of the Pap smear test combined with appropriate follow-up and treatment. Cervical cancer intervention efforts that encompass the above components, with particular focus on black women, could reduce cervical cancer mortality for all races and the black-white difference in cervical cancer mortality.

References

1. NCHS. Public use data tape documentation: multiple cause of death for ICD-9 1985 data. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1987.
2. Bureau of the Census. 1970–1980 intercensal population estimates by race, sex, and age [machine-readable data files]. Washington, DC: US Department of Commerce, Bureau of the Census, nd.
3. Irwin R. 1980–1988 Intercensal population estimates by race, sex, and age [machine-readable data file]. Alexandria, Virginia: Demo-Detail, 1988.
4. CDC. Cervical cancer control—Rhode Island. MMWR 1989;38:659–62.
5. Devesa SS, Silverman DT, Young JL, et al. Cancer incidence and mortality trends among whites in the United States, 1947–84. J Natl Cancer Inst 1987;79:701.
6. National Cancer Institute. Cancer statistics review, 1973–1986. Bethesda, Maryland: US Department of Health and Human Services, Public Health Service, 1989; NIH publication no. (PHS)89-2789.
7. Moss AJ, Wilder MH, NCHS. Use of selected medical procedures associated with preventive care, United States: 1973. Rockville, Maryland: US Department of Health, Education, and Welfare, Public Health Service, 1977; DHEW publication no. (HRA)77-1538. (Vital and health statistics; series 10, no. 110).
8. Public Health Service. Promoting health/preventing disease: year 2000 objectives for the nation [Draft]. Washington, DC: US Department of Health and Human Services, Public Health Service, 1989.

[†]Age adjusted to the 1970 U.S. population.

Epidemiologic Notes and Reports

HIV-1 Infection and Artificial Insemination with Processed Semen

In January 1990, a health department in the United States received a report of human immunodeficiency virus type 1 (HIV-1) infection in a woman who had been artificially inseminated with semen from her HIV-1–infected, hemophilic husband. The man had tested positive for HIV-1 antibody in 1985, but his wife had been negative for HIV-1 antibody yearly since 1985, most recently in December 1988. In August, October, and December 1989, the woman was inseminated with semen from her husband.

In each of the inseminations, fresh ejaculate was processed in an attempt to remove virus from spermatozoa to avoid HIV-1 transmission. In August, the semen was centrifuged to separate cells from seminal plasma. The cellular pellet was washed and recentrifuged twice in a HEPES* buffer and introduced into the woman's uterus through a catheter placed in her cervix. In October and December, fresh ejaculate was fractionated by centrifugation through a discontinuous density gradient of polyvinylpyrrolidone-coated silica particles (Percoll®†) to separate motile spermatozoa from other cells and seminal plasma. The fraction containing motile spermatozoa was washed twice in buffer and introduced into the woman's uterus through a catheter. After each procedure, the woman developed mild cramping but no bleeding; she did not become pregnant. However, in January 1990, she tested positive for HIV-1 antibody by enzyme immunoassay (EIA) and Western blot.

The couple reported using latex condoms with each episode of vaginal intercourse (two to four times monthly) since 1986, denied any instances of condom breakage, and did not engage in oral or anal intercourse. The woman denied skin contact with her husband's blood or with any of the needles he used to inject himself with factor VIII concentrate. She had had no other sex partners since 1985 and had not used drugs intravenously, received blood or blood products, or worked in a health-care setting. She reported no viral illnesses between July 1988 and August 1989. In September 1989, 3 weeks after the first insemination, she was ill for 3 days with a sore throat, tinnitus, nausea, and vomiting. During late November, between the second and third inseminations, she noticed a nontender cervical lymph node. In December, 3 weeks after the third insemination, she developed a low-grade fever, abdominal cramps, and watery diarrhea that lasted 4–5 days.

The physician who performed the inseminations reported that in January 1990 a second HIV-1–discordant couple (i.e., seropositive husband with hemophilia, seronegative wife) underwent one insemination using the same density gradient centrifugation procedure. Nine weeks after the insemination, the woman was negative for HIV-1 antibody by EIA and Western blot and for proviral HIV-1 DNA by polymerase chain reaction.

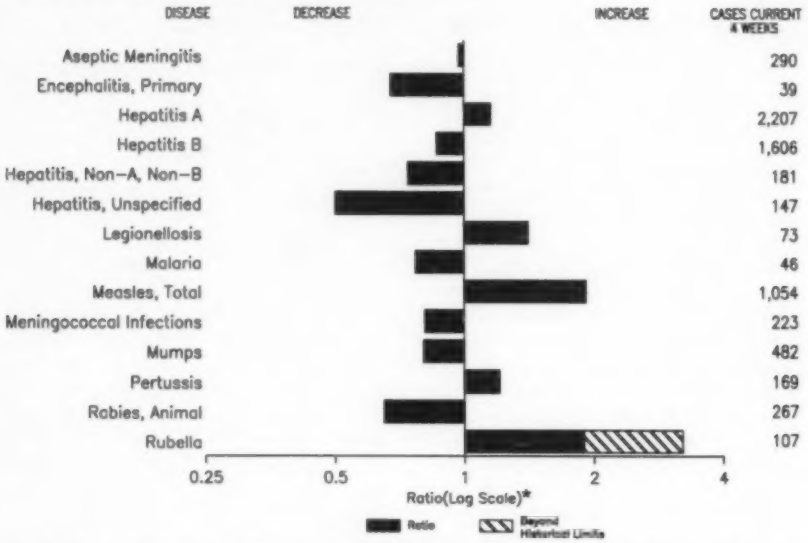
To investigate the methods used to prepare semen from these men for insemination, semen from five HIV-infected men with hemophilia was processed in the same

(Continued on page 255)

*4-(2-Hydroxyethyl)piperazineethanesulfonic acid.

†Use of trade names is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending April 14, 1990, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from comparable, previous, and subsequent 4-week periods for past 5 years).

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending April 14, 1990 (15th Week)

	Cum. 1990		Cum. 1990
AIDS	12,594	Plague	-
Anthrax	-	Poliomyelitis, Paralytic*	-
Botulism: Foodborne	1	Psittacosis	47
Infant	14	Rabies, human	-
Other	1	Syphilis: civilian	13,682
Brucellosis	9	military	84
Cholera	1	Syphilis, congenital, age < 1 year	-
Congenital rubella syndrome	-	Tetanus	14
Diphtheria	2	Toxic shock syndrome	104
Encephalitis, post-infectious	32	Trichinosis	12
Gonorrhea: civilian	191,584	Tuberculosis	5,470
military	2,806	Tularemia	8
Leprosy	49	Typhoid fever	105
Leptospirosis	12	Typhus fever, tickborne (RMSF)	27
Measles: imported	428		
indigenous	4,265		

*One case of suspected poliomyelitis has been reported in 1990; none of 13 suspected cases in 1989 have been confirmed to date. Nine of 14 suspected cases in 1988 were confirmed and all were vaccine-associated.

TABLE II. Cases of specified notifiable diseases, United States, weeks ending April 14, 1990, and April 15, 1989 (15th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990
UNITED STATES	12,594	1,226	177	32	191,594	191,995	8,320	5,906	579	514	320	49
NEW ENGLAND	509	65	6	-	5,473	5,460	179	319	16	26	14	-
Maine	16	2	1	-	75	86	1	16	3	1	1	-
N.H.	29	5	-	-	58	58	4	17	1	2	2	-
Vt.	3	7	-	-	23	22	2	15	2	-	3	-
Mass.	291	20	1	-	2,109	2,204	130	213	6	22	5	-
R.I.	20	19	-	-	276	450	21	19	-	1	3	-
Conn.	150	12	4	-	2,932	2,640	21	39	4	-	-	-
MID. ATLANTIC	3,922	187	13	1	26,611	32,532	1,348	1,039	69	35	83	10
Upstate N.Y.	500	82	12	-	3,734	4,673	292	211	10	9	35	1
N.Y. City	2,246	30	1	-	11,592	14,253	160	334	11	13	8	6
N.J.	782	-	-	-	4,304	4,153	161	243	22	-	9	2
Pa.	394	75	-	1	6,981	9,453	735	251	26	13	31	1
E.N. CENTRAL	828	194	37	5	37,935	32,226	547	766	29	42	89	-
Ohio	188	62	11	2	11,779	8,331	77	165	10	6	37	-
Ind.	70	30	2	2	3,274	2,185	58	195	3	15	16	-
Ill.	371	28	11	1	11,823	9,386	207	91	6	10	-	-
Mich.	155	66	12	-	9,157	9,449	139	198	8	11	25	-
Wis.	44	8	1	-	1,902	2,875	68	117	2	-	11	-
W.N. CENTRAL	306	50	14	1	10,259	8,158	452	266	30	10	16	-
Minn.	44	4	7	1	1,236	819	67	31	11	-	-	-
Iowa	15	6	1	-	829	724	98	28	1	2	2	-
Mo.	197	22	1	-	5,994	4,916	186	156	7	6	12	-
N. Dak.	-	2	-	-	24	40	3	3	2	1	-	-
S. Dak.	1	2	2	-	53	78	13	4	1	-	-	-
Nebr.	16	8	3	-	497	499	32	15	2	-	1	-
Kans.	33	6	-	-	1,626	1,082	53	28	6	1	1	-
S. ATLANTIC	2,908	288	51	10	53,295	52,559	872	1,078	88	76	48	2
Del.	28	9	1	-	720	856	42	26	2	-	3	-
Md.	361	51	6	-	5,433	5,828	414	151	11	3	13	1
D.C.	204	1	-	-	2,965	3,287	7	11	3	-	-	-
Va.	289	58	20	2	5,124	4,408	58	63	11	61	8	-
W. Va.	24	4	4	-	399	407	8	28	2	-	-	-
N.C.	221	30	14	-	8,700	7,712	179	319	41	-	9	-
S.C.	101	3	-	-	4,546	4,779	15	187	8	6	6	-
Ga.	400	18	3	1	11,879	10,145	67	136	3	3	7	-
Fla.	1,280	114	3	7	13,529	15,137	82	157	5	3	2	1
E.S. CENTRAL	278	87	12	-	15,999	15,634	99	432	37	3	24	-
Ky.	53	23	2	-	1,694	1,415	28	124	14	2	8	-
Tenn.	83	21	7	-	5,239	5,197	38	244	14	-	9	-
Ala.	60	32	3	-	5,319	5,037	32	60	7	-	7	-
Miss.	82	11	-	-	3,747	3,985	1	4	2	1	-	-
W.S. CENTRAL	1,042	63	6	4	18,154	20,182	774	419	61	61	19	14
Ark.	45	3	-	-	2,452	1,966	153	24	3	7	4	-
La.	203	10	3	-	3,522	4,202	34	80	-	1	5	-
Okla.	57	8	-	4	1,719	1,851	173	44	9	9	9	-
Tex.	737	42	3	-	10,461	12,163	414	271	49	44	1	14
MOUNTAIN	330	54	4	-	3,917	3,844	1,364	408	36	51	20	-
Mont.	3	1	-	-	45	55	30	29	2	3	-	-
Idaho	12	-	-	-	30	68	22	26	6	-	1	-
Wyo.	1	1	1	-	47	37	19	6	1	-	-	-
Colo.	83	15	-	-	966	842	87	59	11	18	3	-
N. Mex.	23	3	-	-	306	404	178	47	-	-	2	-
Ariz.	138	16	3	-	1,652	1,457	849	140	14	23	8	-
Utah	30	10	-	-	125	141	67	19	3	2	1	-
Nev.	40	8	-	-	746	840	112	82	1	5	5	-
PACIFIC	2,471	238	34	11	19,951	21,400	2,685	1,180	213	210	9	23
Wash.	172	-	1	1	1,706	1,912	435	180	40	8	2	1
Oreg.	88	-	-	-	773	818	301	131	11	5	-	-
Calif.	2,151	215	31	9	17,077	18,268	1,858	825	158	194	6	18
Alaska	12	2	1	-	305	262	54	22	3	-	-	-
Hawaii	48	21	1	1	90	140	37	22	1	3	1	4
Guam	1	-	-	-	48	40	2	1	-	4	-	-
P.R.	640	30	4	-	347	290	48	54	-	18	-	-
V.I.	6	-	-	-	148	170	-	4	-	-	-	-
Amer. Samoa	-	-	-	-	24	11	12	-	-	-	-	5
C.N.M.I.	-	-	-	-	50	23	3	1	-	-	-	1

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE II. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending April 14, 1990, and April 15, 1989 (15th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1990	1990	Cum. 1990	1990	Cum. 1990	Cum. 1989	Cum. 1990	1990	Cum. 1990	1990	Cum. 1990	Cum. 1989	1990	Cum. 1990	Cum. 1989
UNITED STATES	267	156	4,265	23	428	3,064	908	133	1,663	68	745	555	18	212	89
NEW ENGLAND	31	1	88	1	12	122	55	-	16	5	97	15	-	3	1
Maine	-	-	26	-	-	-	7	-	-	-	1	4	-	-	-
N.H.	3	-	-	-	8	1	2	-	6	3	10	5	-	-	-
Vt.	3	-	-	-	1	1	4	-	1	1	3	2	-	-	1
Mass.	17	1	4	1†	1	23	26	-	4	1	75	-	-	-	-
R.I.	3	-	20	-	2	20	3	-	3	-	-	2	-	1	-
Conn.	5	-	38	-	-	77	13	-	2	-	8	2	-	2	-
MID. ATLANTIC	57	12	412	-	114	322	145	9	99	43	192	40	-	2	2
Upstate N.Y.	13	-	137	-	101	73	51	9	47	43	160	18	-	1	1
N.Y. City	20	-	44	-	6	33	13	-	-	-	-	1	-	-	1
N.J.	10	-	8	-	-	207	31	-	19	-	7	17	-	-	-
Pa.	14	12	223	-	7	9	50	-	33	-	25	4	-	1	-
E.N. CENTRAL	12	24	1,570	-	132	423	119	2	168	1	162	77	-	10	7
Ohio	3	-	213	-	2	218	41	-	37	-	42	1	-	-	2
Ind.	-	10	110	-	-	-	11	-	5	-	31	7	-	-	-
Ill.	2	-	606	-	4	197	27	-	43	-	36	29	-	10	4
Mich.	4	14	207	-	125	1	27	2	59	1	31	8	-	-	-
Wis.	3	-	434	-	1	7	13	-	24	-	22	32	-	-	1
W.N. CENTRAL	3	-	104	3	8	270	33	1	53	-	17	17	-	-	2
Minn.	-	-	37	-	3	1	6	-	-	-	-	-	-	-	-
Iowa	-	-	21	-	-	-	1	-	7	-	3	6	-	-	-
Mo.	3	-	39	-	-	247	12	1	29	-	10	9	-	-	2
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	-	3§	5	-	2	-	-	-	1	1	-	-	-
Nebr.	-	-	-	-	-	-	5	-	1	-	1	-	-	-	-
Kans.	-	-	7	-	-	22	7	-	16	-	2	1	-	-	-
S. ATLANTIC	69	20	279	-	38	146	170	63	604	4	64	44	1	10	2
Del.	1	-	4	-	-	1	1	-	-	-	1	-	-	-	-
Md.	15	10	31	-	11	10	16	35	342	-	19	4	-	-	1
D.C.	5	-	2	-	1	2	3	3	13	1	2	-	1	1	-
Va.	14	-	18	-	2	-	20	4	28	-	7	3	-	-	-
W. Va.	1	-	6	-	-	-	6	-	35	2	7	8	-	-	-
N.C.	5	-	3	-	-	117	29	13	47	-	11	13	-	-	-
S.C.	-	-	1	-	-	-	13	-	14	-	3	-	-	-	-
Ga.	5	-	2	-	4	-	35	-	42	1	10	4	-	-	-
Fla.	13	10	212	-	20	16	47	8	83	-	4	12	-	9	1
E.S. CENTRAL	6	2	43	-	-	3	44	4	38	3	33	28	-	1	1
Ky.	2	-	2	-	-	1	12	-	-	-	-	-	-	-	-
Tenn.	3	1	20	-	-	1	14	4	18	-	13	14	-	1	1
Ala.	1	1	6	-	-	1	16	-	3	3	18	11	-	-	-
Miss.	-	-	15	-	-	-	2	N	N	-	2	3	-	-	-
W.S. CENTRAL	2	69	520	10	38	1,387	59	36	358	3	14	18	-	-	9
Ark.	-	-	-	1§	8	-	6	8	92	-	1	6	-	-	-
La.	-	-	-	-	-	4	11	2	56	-	1	4	-	-	3
Okla.	2	6	116	-	-	7	9	4	67	3	12	8	-	-	1
Tex.	-	63	404	9†	30	1,376	33	22	123	-	-	-	-	-	5
MOUNTAIN	5	28	185	9	27	24	24	2	113	6	74	244	2	10	2
Mont.	-	-	-	-	1	13	6	-	-	-	-	-	-	5	1
Idaho	2	-	6	2†	2	1	-	-	57	-	6	27	-	3	-
Wyo.	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Colo.	-	5	16	5†§	7	2	10	-	9	2	47	17	2	2	-
N. Mex.	-	6	55	2†§	3	7	1	N	N	-	3	4	-	-	-
Ariz.	3	17	72	-	11	1	2	1	33	3	10	188	-	-	-
Utah	-	-	-	-	-	-	1	1	3	1	4	7	-	-	-
Nev.	-	U	36	U	3	-	4	U	9	U	4	1	U	-	1
PACIFIC	82	-	1,064	-	59	367	259	16	214	3	92	72	15	176	63
Wash.	6	-	7	-	38	6	28	-	19	1	29	16	-	-	-
Oreg.	4	-	-	-	-	-	31	N	N	-	3	2	-	-	-
Calif.	71	-	1,009	-	20	354	195	16	192	1	50	53	15	172	47
Alaska	-	-	47	-	-	-	4	-	-	-	-	-	-	-	-
Hawaii	1	-	1	-	1	7	1	-	3	1	10	2	-	4	16
Guam	1	U	-	U	-	1	-	U	-	U	-	1	U	-	-
P.R.	-	-	300	-	-	240	6	-	3	-	4	2	-	-	3
V.I.	-	-	-	-	-	1	-	-	4	-	-	-	-	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
C.N.M.I.	-	U	-	U	-	-	-	U	4	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.
N: Not notifiable U: Unavailable †International §Out-of-state

TABLE II. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending April 14, 1990, and April 15, 1989 (15th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1989	Cum. 1990	Cum. 1990	Cum. 1990	Cum. 1990
UNITED STATES	13,682	11,661	104	5,470	5,342	8	105	27	949
NEW ENGLAND	548	451	7	120	111	-	5	-	1
Maine	5	3	1	-	3	-	-	-	-
N.H.	28	1	1	1	4	-	-	-	1
Vt.	1	-	-	2	1	-	-	-	-
Mass.	195	147	4	53	56	-	4	-	-
R.I.	1	11	-	25	18	-	-	-	-
Conn.	318	289	1	39	29	-	1	-	-
MID. ATLANTIC	2,862	2,453	9	1,368	1,125	1	30	3	232
Upstate N.Y.	190	219	4	24	102	-	8	-	7
N.Y. City	1,481	991	2	885	867	-	13	-	-
N.J.	464	386	-	240	169	1	8	3	77
Pa.	727	867	3	219	187	-	1	-	148
E.N. CENTRAL	904	428	30	564	580	-	15	3	15
Ohio	140	30	13	64	101	-	4	1	2
Ind.	9	17	2	34	46	-	-	-	-
Ill.	355	185	2	275	266	-	7	-	5
Mich.	296	176	13	166	143	-	3	2	-
Wis.	104	20	-	25	24	-	1	-	8
W.N. CENTRAL	117	94	11	146	143	4	-	2	131
Minn.	32	6	-	22	29	-	-	-	59
Iowa	10	13	1	20	24	-	-	-	10
Mo.	55	45	7	68	53	3	-	2	5
N. Dak.	1	1	-	7	6	-	-	-	12
S. Dak.	-	-	-	4	7	-	-	-	31
Nebr.	3	15	2	9	6	1	-	-	-
Kans.	16	14	1	16	18	-	-	-	14
S. ATLANTIC	4,282	4,210	3	1,056	1,086	2	8	8	295
Del.	57	52	-	12	11	-	-	-	3
Md.	360	217	-	96	91	-	4	-	99
D.C.	264	252	-	37	49	-	-	-	-
Va.	189	164	-	98	103	-	-	-	55
W. Va.	5	4	-	17	26	-	-	-	8
N.C.	502	244	2	140	94	1	-	4	2
S.C.	258	217	-	130	109	1	-	2	36
Ga.	992	910	-	144	151	-	1	-	66
Fla.	1,655	2,150	1	383	461	-	3	-	26
E.S. CENTRAL	1,263	725	6	448	470	-	-	4	40
Ky.	24	17	-	118	117	-	-	-	19
Tenn.	531	264	3	132	114	-	-	4	1
Ala.	380	274	3	131	145	-	-	-	20
Miss.	328	170	-	67	94	-	-	-	-
W.S. CENTRAL	2,203	1,492	6	657	599	-	2	8	120
Ark.	128	103	-	71	77	-	-	1	6
La.	683	338	1	62	61	-	-	-	-
Okla.	56	24	5	55	53	-	-	7	24
Tex.	1,336	1,027	-	469	408	-	2	-	90
MOUNTAIN	258	217	14	125	150	1	7	-	31
Mont.	-	-	-	4	4	-	-	-	10
Idaho	4	-	1	3	3	-	-	-	-
Wyo.	-	-	1	-	-	-	-	-	17
Colo.	16	40	5	6	3	-	-	-	-
N. Mex.	16	7	4	30	27	1	-	-	2
Ariz.	156	64	3	61	66	-	5	-	-
Utah	2	8	-	3	29	-	-	-	-
Nev.	64	98	-	18	18	-	2	-	2
PACIFIC	1,245	1,591	18	986	1,069	-	38	1	84
Wash.	100	111	3	88	52	-	-	-	-
Oreg.	35	91	-	36	33	-	-	-	-
Calif.	1,101	1,382	14	816	920	-	36	1	68
Alaska	3	2	-	16	14	-	-	-	16
Hawaii	6	5	1	30	50	-	2	-	-
Guam	-	3	-	11	29	-	-	-	-
P.R.	254	147	-	29	60	-	-	-	8
V.I.	1	1	-	2	2	-	-	-	-
Amer. Samoa	-	-	-	3	2	-	-	-	-
C.N.M.I.	-	1	-	10	4	-	4	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending April 14, 1990 (15th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	>65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	620	407	121	59	12	21	75
Boston, Mass.	194	113	46	22	3	10	28
Bridgeport, Conn.	36	27	7	1	-	-	3
Cambridge, Mass.	26	19	4	2	-	1	2
Fall River, Mass.	26	19	5	2	-	-	2
Hartford, Conn.	39	19	12	6	2	-	7
Lowell, Mass.	17	13	1	3	-	-	1
Lynn, Mass.	14	11	1	2	-	-	1
New Bedford, Mass.	29	24	4	-	1	-	6
New Haven, Conn.	51	34	4	10	3	-	12
Providence, R.I.	47	29	13	4	1	-	2
Somerville, Mass.	4	2	1	1	-	-	1
Springfield, Mass.	58	36	12	4	1	5	6
Waterbury, Conn.	24	18	3	1	1	1	4
Worcester, Mass.	56	43	8	1	-	4	-
MID. ATLANTIC	2,532	1,656	479	276	45	76	134
Albany, N.Y.	44	30	10	1	1	2	1
Allentown, Pa.	19	15	2	1	1	-	1
Buffalo, N.Y.	100	72	18	6	2	2	6
Camden, N.J.	43	27	10	5	1	-	-
Elizabeth, N.J.	16	14	2	-	-	-	1
Erie, Pa.†	48	31	12	4	1	-	1
Jersey City, N.J.	21	15	3	3	-	-	2
N.Y. City, N.Y.	1,360	852	261	182	26	39	52
Newark, N.J.	94	39	19	27	2	7	6
Paterson, N.J.	33	18	7	2	1	5	-
Philadelphia, Pa.	297	202	63	18	5	9	21
Pittsburgh, Pa.†	87	59	16	9	-	3	4
Reading, Pa.	37	29	7	1	-	-	9
Rochester, N.Y.	98	73	11	7	2	5	9
Schenectady, N.Y.	29	20	7	1	-	1	2
Scranton, Pa.†	41	32	5	4	-	-	5
Syracuse, N.Y.	83	64	18	-	-	1	6
Trenton, N.J.	30	21	2	3	2	2	3
Utica, N.Y.	22	18	3	-	1	-	1
Yonkers, N.Y.	30	25	3	2	-	-	4
E.N. CENTRAL	2,256	1,519	461	149	49	78	117
Akron, Ohio	67	44	17	2	1	3	-
Canton, Ohio	37	27	9	1	-	-	1
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	154	101	30	10	4	9	23
Cleveland, Ohio	122	82	22	9	4	5	5
Columbus, Ohio	180	117	41	10	8	4	9
Dayton, Ohio	118	86	21	5	1	5	8
Detroit, Mich.	252	145	50	36	10	11	4
Evansville, Ind.	39	29	8	1	-	1	4
Fort Wayne, Ind.	46	37	7	1	-	1	1
Gary, Ind.	12	5	2	3	2	-	1
Grand Rapids, Mich.	59	41	12	2	-	4	3
Indianapolis, Ind.	162	108	38	7	5	4	6
Madison, Wis.	37	27	8	1	1	-	2
Milwaukee, Wis.	122	93	21	3	1	4	5
Peoria, Ill.	50	38	9	3	-	2	6
Rockford, Ill.	45	35	9	1	-	-	6
South Bend, Ind.	34	27	5	2	-	-	4
Toledo, Ohio	86	65	16	2	-	1	7
Youngstown, Ohio	70	52	9	5	2	2	6
W.N. CENTRAL	723	527	117	46	13	20	53
Des Moines, Iowa	64	51	10	1	1	1	4
Duluth, Minn.	25	16	6	1	-	2	1
Kansas City, Kans.	18	13	4	1	-	-	2
Kansas City, Mo.	117	82	24	5	3	3	7
Lincoln, Nebr.	36	28	5	1	1	1	4
Minneapolis, Minn.	132	96	14	14	4	4	9
Omaha, Nebr.	61	42	9	6	-	4	9
St. Louis, Mo.	165	119	29	9	3	5	12
St. Paul, Minn.	59	46	7	6	-	-	4
Wichita, Kans.	46	34	9	2	1	-	1

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	>65	45-64	25-44	1-24	<1	Total
S. ATLANTIC	1,144	657	219	152	50	66	55
Atlanta, Ga.	174	95	33	26	9	9	2
Baltimore, Md.	154	94	37	15	2	6	5
Charlotte, N.C.	51	39	7	5	-	-	4
Jacksonville, Fla.	119	76	22	12	3	6	9
Miami, Fla.	109	39	23	23	20	4	-
Norfolk, Va.	60	37	11	5	3	4	3
Richmond, Va.	74	48	11	5	1	9	13
Savannah, Ga.	75	43	14	15	1	2	7
St. Petersburg, Fla.	66	47	7	7	1	4	2
Tampa, Fla.	55	33	12	5	2	3	5
Washington, D.C.	181	85	37	32	8	19	4
Wilmington, Del.	26	21	5	-	-	-	1
E.S. CENTRAL	862	554	196	73	22	17	61
Birmingham, Ala.	149	93	37	14	3	2	3
Chattanooga, Tenn.	54	35	15	3	1	-	5
Knoxville, Tenn.	80	56	18	4	2	-	11
Louisville, Ky.	125	79	29	9	3	5	9
Memphis, Tenn.	177	111	37	18	4	7	14
Mobile, Ala.	90	61	21	5	2	1	4
Montgomery, Ala.	35	19	5	8	3	-	4
Nashville, Tenn.	152	100	34	12	4	2	11
W.S. CENTRAL	1,742	1,062	390	182	59	48	82
Austin, Tex.	67	45	8	7	1	6	6
Baton Rouge, La.	62	34	12	15	1	-	4
Corpus Christi, Tex.§	46	35	9	2	-	-	2
Dallas, Tex.	192	94	50	23	13	12	3
El Paso, Tex.	67	39	20	6	1	1	8
Fort Worth, Tex	115	73	22	10	6	4	7
Houston, Tex.§	734	436	169	89	24	16	18
Little Rock, Ark.	62	37	17	3	2	3	5
New Orleans, La.§	91	53	22	10	3	3	-
San Antonio, Tex.	177	126	31	12	5	3	17
Shreveport, La.	59	42	14	2	-	1	8
Tulsa, Okla.	70	48	16	3	3	-	4
MOUNTAIN	691	455	136	59	19	22	41
Albuquerque, N. Mex.	82	47	17	10	5	3	-
Colo. Springs, Colo.	46	36	6	3	-	1	7
Denver, Colo.	96	66	13	11	3	3	2
Las Vegas, Nev.	129	80	35	10	3	1	8
Ogden, Utah	23	17	3	1	1	1	3
Phoenix, Ariz.	141	87	23	17	4	10	3
Pueblo, Colo.	22	19	1	1	1	-	2
Salt Lake City, Utah	38	22	12	1	1	2	-
Tucson, Ariz.	114	81	26	5	1	1	16
PACIFIC	1,766	1,213	288	171	47	39	111
Berkeley, Calif.	24	17	3	4	-	-	2
Fresno, Calif.	45	32	6	4	2	1	7
Glendale, Calif.	22	20	-	1	-	1	1
Honolulu, Hawaii	59	52	6	1	-	-	8
Long Beach, Calif.§	85	54	17	8	2	4	11
Los Angeles Calif.	432	293	77	43	12	1	17
Oakland, Calif.	68	43	10	8	4	2	5
Pasadena, Calif.	32	16	7	6	-	3	-
Portland, Oreg.	94	68	16	6	1	3	2
Sacramento, Calif.	160	116	24	7	7	6	19
San Diego, Calif.	167	114	19	20	7	7	10
San Francisco, Calif.	152	82	40	26	2	1	8
San Jose, Calif.	186	127	27	19	6	7	14
Seattle, Wash.	139	100	21	12	3	3	1
Spokane, Wash.	53	40	11	1	1	-	6
Tacoma, Wash.	48	39	4	5	-	-	-
TOTAL	12,336††	8,050	2,407	1,167	316	367	729

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

§Data not available. Figures are estimates based on average of past available 4 weeks.

Artificial Insemination — Continued

laboratory using both procedures reported here. In four of the five semen samples, leukocytes were present before processing. Leukocytes remained in all four samples after simple centrifugation and washing and in two of three samples tested after density gradient centrifugation. In two, CD4+ lymphocytes were present after simple centrifugation and washing.

To assess the interest in insemination among HIV-discordant couples and the frequency of such procedures, 40 of the 222 hemophilia treatment centers in the United States were surveyed by telephone. Twenty-six (65%) centers reported receiving inquiries from HIV-discordant couples interested in such procedures, and 13 (33%) had referred interested couples to specialists for information or insemination; one reported a couple who had conceived without HIV-1 transmission after insemination with processed semen. In general, respondents reported that couples who sought such information were well-informed about HIV infection but were highly motivated to conceive their own children.

Reported by: Epidemiology Br, Div of HIV/AIDS and Epidemiology Activity, Div of Immunologic, Oncologic, and Hematologic Diseases, Center for Infectious Diseases; Div of Field Svcs, Epidemiology Program Office, CDC.

Editorial Note: The mode of HIV-1 transmission to the woman described in this report cannot be determined definitively. Although she reported symptoms suggestive of an acute retroviral syndrome, no single episode is specific enough to establish the time of infection. The possibility of sexual transmission from her husband cannot be excluded. However, the insemination procedures may have resulted in transmission; infected leukocytes or free virus may not have been removed from the husband's semen with the procedures used.

There is no evidence that any procedure can reliably eliminate HIV from semen. HIV-1 has been isolated from the leukocyte fraction and from seminal plasma from HIV-1–infected men (*1–3*). Techniques for concentrating motile spermatozoa in semen (*4*) may remove virus associated with leukocytes and seminal plasma but have not been shown to eliminate the virus. Moreover, HIV-1 has been reported to attach to or enter spermatozoa (*5,6*), although this finding has been disputed (*7,8*).

HIV-1 transmission through intravaginal insemination with unprocessed donor semen has been reported (*9,10*), although data regarding the magnitude of the risk are conflicting (*9–11*). Whether intrauterine insemination carries a higher risk than intravaginal procedures is not known.

The investigation reported here indicates that some HIV-1–discordant couples are seeking methods of achieving conception without transmission of HIV infection. However, no data exist to support the safety of any procedure purported to remove HIV from semen. CDC recommends against insemination with semen from HIV-infected men (*12*).

References

1. Zagury D, Bernard J, Leibowitch J, et al. HTLV-III in cells cultured from semen of two patients with AIDS. Science 1984;226:449–51.
2. Ho DD, Schooley RT, Rota TR, et al. HTLV-III in the semen and blood of a healthy homosexual man. Science 1984;226:451–3.
3. Levy JA. The transmission of AIDS: the case of the infected cell. JAMA 1988;259:3037–8.
4. Berger T, Marrs RP, Moyer DL. Comparison of techniques for selection of motile spermatozoa. Fertil Steril 1985;43:268–73.
5. Miller VE, Scofield VL. Sperm mediated transfer of HIV into target cells: role in AIDS transmission [Abstract]. V International Conference on AIDS. Montreal, Canada, June 4–9, 1989:514.

Artificial Insemination — Continued

6. Bagasra O, Freund M, Weidmann J, Harley G. Interaction of human immunodeficiency virus with human sperm in vitro. J AIDS 1988;1:431–5.
7. Pudney J. Caveats associated with identifying HIV using transmission electron microscopy. In: Alexander NJ, Gabelnick HL, Spieler JM, eds. Heterosexual transmission of AIDS: proceedings of the Second Contraceptive Research and Development (CONRAD) Program International Workshop. New York: Wiley-Liss, 1989:197–204.
8. Anderson D, Wolff H, Wenhao Z, Pudney J, Dorfman T, Mayer K. Evidence against HIV-1 attachment to human spermatozoa. Science (in press).
9. Stewart GJ, Tyler JPP, Cunningham AL, et al. Transmission of human T-cell lymphotropic virus type III (HTLV-III) by artificial insemination by donor. Lancet 1985;2:581–4.
10. Chiasson MA, Stoneburner RL, Joseph SC. Human immunodeficiency virus transmission though artificial insemination. J AIDS 1990;3:69–72.
11. Eskenazi B, Pies C, Newstetter A, Shepard C, Pearson K. HIV serology in artificially inseminated lesbians. J AIDS 1989;2:187–93.
12. CDC. Semen banking, organ and tissue transplantation, and HIV antibody testing. MMWR 1988;37:57–8,63.

Health Objectives for the Nation

Progress Toward Achieving the 1990 National Objectives for the Misuse of Alcohol and Drugs

Nineteen of the 1990 Health Objectives for the Nation (*1*) address the misuse of alcohol and other drugs. This report summarizes progress toward achieving eight of these objectives through November 1989.

By 1990, fatalities from all alcohol-related motor vehicle accidents* should be reduced to less than 9.5 per 100,000 population per year.

This objective will be met. In 1988, following a general downward trend, fatalities from alcohol-related motor vehicle crashes were 9.5 per 100,000 population, compared with 11.5 per 100,000 in 1977 (National Institute on Alcohol Abuse and Alcoholism, unpublished data).

By 1990, the cirrhosis mortality rate should be reduced to 12 per 100,000 per year.

This objective has been achieved. Deaths from cirrhosis of the liver declined from almost 13.5 per 100,000 in 1978 to <10.0 in 1986 (*2*).

By 1990, per capita consumption of alcohol should not exceed current levels.

This objective has been achieved. Annual per capita consumption for persons aged ≥14 years decreased from 2.7 gallons in 1978 to <2.6 gallons in 1987, the lowest level since 1958 (*3*).

By 1990, the proportion of adolescents 12 to 17 years old who abstain from using alcohol or other drugs should not fall below 1977 levels.

This objective has been partially met. The proportion of alcohol abstainers among persons aged 12–17 years increased from 68.8% in 1977 to 74.8% in 1988. Marijuana abstention also increased, from 83.4% to 93.6%; however, the proportion of cocaine abstainers declined slightly, from 99.2% to 98.9% (*4,5*).

*When a death occurs under "accidental circumstances," the preferred term within the public health community is "unintentional injury."

Alcohol and Drugs — Continued

By 1990, the proportion of young adults 18 to 25 years old reporting frequent use of other drugs should not exceed 1977 levels.

This objective has been partially met. The frequent use (i.e., ≥5 days per month) of marijuana by young adults aged 18–25 years declined from 18.7% in 1977 to 6.9% in 1988 (*6*; National Institute on Drug Abuse [NIDA], unpublished data); however, frequent use of other drugs increased from <1.0% in 1977 to 1.3% in 1988, primarily due to the increase in the use of cocaine (*6*; NIDA, unpublished data).

By 1990, the proportion of adolescents 12 to 17 years old reporting frequent use of other drugs should not exceed 1977 levels.

This objective has been partially met. In 1977, 8.7% of adolescents 12–17 years of age reported frequent use of marijuana, and <1.0% reported frequent use of drugs other than marijuana. In comparison, in 1988, frequent use of marijuana among this age group was 2.0%, and frequent use of drugs other than marijuana was 0.8% (*6*; NIDA, unpublished data).

By 1990, the proportion of women of childbearing age aware of risks associated with pregnancy and drinking, in particular the Fetal Alcohol Syndrome, should be greater than 90 percent.

This objective likely will be achieved. In 1979, 73% of women of childbearing age were aware of risks associated with pregnancy and drinking. In 1985, 88% of women were aware that heavy drinking during pregnancy increased the risk for low birthweight and birth defects, and 86% were aware of increased risk for miscarriages and mental retardation in newborns (*7*).

By 1990, 80 percent of high school seniors should state that they perceive great risk associated with frequent regular cigarette smoking, marijuana use, barbiturate use, or alcohol intoxication.

This objective has been partially met. From 1979 to 1988, the proportion of high school seniors aware of risks associated with regularly smoking cigarettes increased from 63.0% to 68.0%; regularly smoking marijuana, from 42.0% to 77.0%; regularly using cocaine, from 69.5% to 89.2%; and alcohol intoxication (i.e., five or more drinks per occasion), from 34.9% to 42.6%. In contrast, the proportion aware of the risk of habitual barbiturate use decreased from 71.6% in 1979 to 69.6% in 1988 (*8*).

Reported by: EM Johnson, PhD, Alcohol, Drug Abuse and Mental Health Administration, Public Health Service, US Department of Health and Human Services.

Editorial Note: Since 1980, substantial progress has been made toward increasing public knowledge and awareness of the adverse social and health consequences associated with the misuse of alcohol and drugs. Risk perception has generally increased, and reductions have been achieved in alcohol-related traffic fatalities, per capita alcohol consumption, and casual use of drugs. The involvement of individuals and organizations has contributed to campaigns to eliminate drinking and driving, to raise the minimum purchase age for alcohol to 21 years, to ban "happy hours," and to hold the host responsible for the actions of inebriated guests (*9*). Heightened health consciousness nationwide also may have reduced the appeal of heavy drinking.

In contrast, the percentage of persons using cocaine at least once a week has increased from 5.3% in 1985 to 10.5% in 1988 (*5*). At greatest risk are inner-city and Native American reservation populations, women of childbearing age, persons

Alcohol and Drugs — Continued

addicted to crack cocaine, and "high-risk youth."[†] Increased use of cocaine among adolescents is of particular concern because the prevalence of substance abuse among adults increases inversely with the age at which drugs or alcohol were first experienced (*10–12*).

References

1. Public Health Service. Promoting health/preventing disease: objectives for the nation. Washington, DC: US Department of Health and Human Services, Public Health Service, 1980:67–72.
2. Grant B, Zobeck T. Liver cirrhosis mortality in the United States, 1972–1986. Rockville, Maryland: National Institute on Alcohol Abuse and Alcoholism, 1989. (Surveillance report no. 11).
3. Brooks SD, Williams GD, Stinson FS, Noble J. Apparent per capita alcohol consumption—national, state, and regional trends, 1977–1987. Rockville, Maryland: National Institute on Alcohol Abuse and Alcoholism, 1989. (Surveillance report no. 13).
4. National Institute on Drug Abuse. National Household Survey on Drug Abuse: population projections, 1977. Rockville, Maryland: US Department of Health, Education, and Welfare, Public Health Service, 1978.
5. National Institute on Drug Abuse. National Household Survey on Drug Abuse: population estimates, 1988. Rockville, Maryland: US Department of Health and Human Services, Public Health Service, 1989; DHHS publication no. (ADM)89-1636.
6. National Institute on Drug Abuse. National Household Survey on Drug Abuse: main findings 1977. Vol 1. Rockville, Maryland: US Department of Health, Education, and Welfare, Public Health Service, 1978; DHEW publication no. (ADM)78-618.
7. Public Health Service. The 1990 health objectives for the nation: a midcourse review. Washington, DC: US Department of Health and Human Services, Public Health Service, 1986.
8. National Institute on Drug Abuse. Drug use, drinking, and smoking: national survey results from high school, college and young adult populations, 1975–1988. Rockville, Maryland: US Department of Health and Human Services, Public Health Service, 1989; DHHS publication no. (ADM)89-1638.
9. General Accounting Office. Drinking-age laws: an evaluation synthesis of their impact on highway safety—report to the Chairman, Subcommittee on Investigations and Oversight, Committee on Public Works and Transportation, House of Representatives. Washington, DC: US General Accounting Office; no. GAO/PEMD-87-10.
10. Adams EH, Gfroerer JC. Elevated risk of cocaine use in adults. Psychiatr Ann 1988;18:523–7.
11. Kandel DB, Logan JA. Patterns of drug use from adolescence to young adulthood. I. Periods of risk for initiation, continued use, and discontinuation. Am J Public Health 1984;74:660–6.
12. Kandel DB, Murphy D. Cocaine use in young adulthood: patterns of use and psychosocial correlates. In: Kozel NJ, Adams EH, eds. Cocaine use in America: epidemiologic and clinical perspectives. Rockville, Maryland: US Department of Health and Human Services, Public Health Service, 1985; DHHS publication no. (ADM)85-1414. (NIDA research monograph no. 61).

[†]As defined in Section 509, Title V, of the Public Health Service Act and 42 U.S.C. § 290aa-8.

The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333; telephone (404) 332-4555.

☆U.S. Government Printing Office: 1990-731-103/02066 Region IV

HHS Publication No. (CDC) 90-8017